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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,668	12/29/2003	Leila Song	5017	1567

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The Law Office of Stuart D. Frenkel, P.C.
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EXAMINER

AHMED, HASAN SYED

ART UNIT	PAPER NUMBER
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1615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/747,668	SONG ET AL.	
	Examiner	Art Unit	
	Hasan S. Ahmed	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1615

DETAILED ACTION

- Receipt is acknowledged of applicant's remarks, which was filed on 11 October 2006.
- The obviousness-type double patenting rejection of the prior Office action (mail date 25 July 2006) is withdrawn in light of the remarks.

* * * * *

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for pigment derived from fish, does not reasonably provide enablement for said pigment being a mixture of guanine and hypoxanthine. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1615

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoercher, et. al. (U.S. Patent No. 4,966,734).

Hoercher, et. al. teach a process for removal of undesirable odors fish products by reducing the carbonyl compounds which cause fish odor (see col. 1, lines 1-17; col. 2, lines 6-7).

The disclosed process involves mixing sodium borohydride solution (0.01-10%) with a fatty ester mixture (from, for example, fish oil) and an organic acid (see col. 2, lines 1-5 and 44-45; Examples 1 and 3). The acid is added 30 minutes after the sodium borohydride is mixed with the fatty ester mixture (see Example 1).

Hoercher, et. al. explain that the disclosed process is beneficial because it results in removal of undesirable odor from fish products, which is extremely difficult to remove (see col. 1, lines 31-35, 61-68; col. 2, lines 6-10).

Although Hoercher, et. al. do not explicitly teach a fish derived pigment in the form of a paste, as instantly claimed, the carbonyl compounds which cause fish odor in the instantly claimed fish derived pigment are the same carbonyl compounds of the fish oil in the prior art. Thus, reduction of carbonyl compounds, whether in fish pigment or fish oil (as described in the prior art) will result in removal of undesirable fish odors.

Hoercher, et. al. do not explicitly teach the organic acid claimed, i.e. acetic acid; nor do they teach use of sodium borohydride in powder form. Burden shifts to applicant to show an unexpected result by using acetic acid in lieu of other organic acids and use of sodium borohydride in powder form.

While Hoercher, et. al. do not explicitly teach all the instant claimed percentages, it is the position of the examiner that it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine suitable percentages through routine or manipulative experimentation to obtain the best possible results, as these are variable parameters attainable within the art.

Moreover, generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456; 105 USPQ 233, 235 (CCPA 1955). Applicants have not demonstrated any unexpected or unusual results, which accrue from the instant percentage ranges.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to remove undesirable odor from fish products using a complex metal hydride and an organic acid, as taught by Hoercher, et. al. Motivation, as explained by Hoercher, et. al. comes from removal of undesirable odor from fish products, which is extremely difficult to remove.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Saiga, et. al. (JP 351149211A) teach that reduction of amines (from natural sources) with borohydride compounds will reduce odor. JP 2003088337A teaches treatment of fish scales with acid to reduce odor.

* * * * *

Response to Arguments

Applicant's arguments filed on 11 October 2006 have been fully considered but they are not persuasive.

35 USC 112(1)

Applicants argue that the instantly claimed fish derived pigment made of guanine and hypoxanthine is enabled by the specification. See remarks, page 2.

Examiner respectfully submits that in the section of the specification which describes the isolation of pigment derived from fish (see page 5, line 10 – page 6, line 22) only guanine is mentioned; hypoxanthine is not disclosed anywhere in the description of pigment isolation.

Applicants direct the record to page 1, lines 9-13. Here, hypoxanthine is mentioned as component of pearlescence. However, pearlescence is not claimed. Rather, claim 1 recites a, "pigment derived from fish."

Thus, examiner respectfully submits that while a fish derived pigment consisting of guanine is enabled by the instant specification, a pigment consisting of a mixture of guanine and hypoxanthine is not.

*

35 USC 103

1. Applicants argue that the instant application is directed to the deodorization of a pigment derived from fish, while the Hoercher, et al. reference is directed to deodorizing an oil derived from fish. See remarks, page 3.

Claim 1 (the only independent claim presented) recites, “[a] process for the deodorization of pigment derived from fish comprising contacting said pigment with a complex metal hydride.” (Emphasis supplied.)

The limitation “pigment derived from fish” is extremely broad, and may reasonably be interpreted as claiming a pigment derived from *any* part of a fish, including fish oil. The specification does not limit the scope of the language; i.e. no guidance is provided as to what a “pigment derived from fish” includes. Thus, examiner respectfully submits that fish oil is within the scope of the instant claims.

2. Applicants argue that the instant application does not indicate that the odor of pigment derived from fish scales is due to carbonyl compounds. Applicants direct the record to page 2, lines 17-20 of the instant application, where it is stated that natural guanine crystals contain impurities which are believed to cause the unpleasant odor. See remarks, page 3.

Examiner respectfully submits that applicants have not provided any evidence that the odor from fish scales derives from amines. The assertion that the odor from fish scales derives from amines is a theory advanced by the applicant without any basis in fact. The language of the specification relied upon by applicants in their remarks (page 2, lines 17-20) suggests that applicants themselves are unsure of the soundness of this theory: “Natural crystallized guanine, however, may contain impurities, believed to be amines, which can cause deterioration of and as well provide an unpleasant odor in the products formulated therewith.” (Emphasis supplied.) Thus, examiner

Art Unit: 1615

respectfully submits, carbonyl compounds cannot be ruled out as the source of odor in applicants' disclosure.

Furthermore, applicants have not recited amines, or a reaction between amines and a complex metal hydride in the instant claims; nor do the instant claims contain a limitation stating that the odor treated is not from carbonyl compounds. Thus, applicants are arguing limitations that are not in the instant claims

The applicant's arguments are based on what the examiner believes to be a narrow interpretation of the prior art. A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including non-preferred embodiments. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989). It is the position of the examiner that one of ordinary skill in the art, given both the prior art and the claims in their present form their broadest reasonable interpretation, would find the claimed invention obvious in view of the prior art. See MPEP § 2111 and 2123.

* * * * *

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 1615

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

★

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hasan S. Ahmed whose telephone number is 571-272-4792. The examiner can normally be reached on 9am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Woodward can be reached on 571-272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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